

Appl. No. 10/820,500
Reply to Office action of December 26, 2007

Amendments to the Drawings

The attached sheet of drawings includes changes to Fig. 5A. This sheet, which includes Fig. 5A, replaces the original sheet including Fig. 5A. In Figure 5A, a spread
5 spectrum control circuit 50 is depicted, and the label of block 52 is corrected as "phase
modulator" to comply with the related descriptions of the specification. No new
matter is introduced.

Attachment: Replacement Sheet

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REMARKS/ARGUMENTS

Request for Continued Examination:

5 The applicant respectfully requests continued examination of the above-indicated application as per 37 CFR 1.114.

10 Claims 17-31 and 40-41 remain in this application. Claims 32-39 have been cancelled without prejudice. Claims 40-41 are newly added without entering any new matters. The Examiner is thanked for the thorough examination of the present application. Applicant has amended claims 17 and 25 and thereby respectfully requests reconsideration of the remaining claims for at least the reasons set forth herein.

Response to the drawing objections:

15 Fig. 5A is amended to show a spread spectrum control circuit 50 without entering any new matters. The label of block 52 in Fig. 5A is also corrected to be "phase modulator", so as to comply with the related descriptions of the specification. Besides, the frequency control circuit as recited in claim 17 could be found by the phase
20 modulator 52 of Fig. 5A, which couples to the multi-phase oscillation clock generator 51 and the modulation value generator 54, for generating the modulation clock signal according to the oscillation clock signal and the modulation value with which an average frequency of the modulation clock signal varies. Therefore, the current drawings have shown every feature of the invention specified in the claims.

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Response to the claim rejections:

Claims 17 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyabe et al. (U.S. Patent No. 6,559,698). Applicant has amended claims 17 and 25

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and asserts the amended claims 17 and 25 are patentable over Miyabe et al. because of the following reasons.

The amended claim 17 recites:

- 5 A clock generating circuit, comprising:
a clock generator for receiving a reference clock signal and thereby generating
an output clock signal; and
a spread spectrum control circuit, coupled to the clock generator, for
generating a modulated clock signal with frequency variation according to
10 the output clock signal and a modulation value, comprising:
a modulation value generating circuit for outputting the modulation value; and
a frequency control circuit, coupled to the clock generator and the
modulation value generating circuit, for generating the modulated clock
signal according to the output clock signal and the modulation value
15 with which an average frequency of the modulated clock signal varies;
wherein the modulation value varies with time in a predetermined manner
so as to force the average frequency of the modulated clock signal to
change up and down over time, the clock generator operates in a way
being independent of the spread spectrum control circuit when the
20 average frequency of the modulated clock signal changes up and down
over time, and the output clock signal generated by the clock generator
and the modulated signal generated by the spread spectrum control
circuit are separate signals and the modulation value varies with time in a
predetermined manner so as to force the average frequency of the modulated
25 clock signal to change up and down over time.

(Emphasis added)

- Applicant asserts that claim 17 is patentable over Miyabe et al. because Miyabe
et al. at least fail to teach or suggest the following limitations: "a frequency control
30 circuit, coupled to the clock generator and the modulation value generating circuit,

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for generating the modulated clock signal according to the output clock signal and the modulation value with which an average frequency of the modulated clock signal varies; the clock generator operates in a way being independent of the spread spectrum control circuit when the average frequency of the modulated clock signal changes up and down over time, and the output clock signal generated by the clock generator and the modulated signal generated by the spread spectrum control circuit are separate signals". Miyabe et al. teach a PLL system 1 for generating an output clock signal 14 and a clock modulating circuit 2 for controlling a divider 15 of the PLL system 1, but neither teach the clock modulating circuit 2 generating a modulated clock signal, which should be separated from the output clock signal 14 as taught by claim 17, having an average frequency changing up and down over time nor teach the PLL system 1 operating in a way being independent of the modulating circuit 2 when the average frequency of the modulated clock signal (which is undisclosed in Miyabe et al.) changes up and down over time. Although Miyabe et al. teach the PLL system 1 can be used as a fixed clock generator when a 1st order delta-sigma modulator 21 of the clock modulating circuit 2 is stopped or brought into a zero output state, this teaching at most disclose the PLL system 1 may function like the claimed clock generator but nowhere disclose the clock modulating circuit 2 generating the modulated clock with the limitations as discussed above. Therefore, Miyabe et al. fail to disclose all the claimed limitations of claim 17, and thereby the amended claim 17 is placed in condition of allowance. Since claims 18-24 and 40 are dependent upon claim 17, if claim 17 is found to be allowable, so too should the dependent claims.

Applicant also asserts that claim 25 is patentable over Miyabe et al. because of at least the same reasons placing claim 1 allowable. Since claims 26-31 and 41 are dependent upon claim 25, if claim 25 is found to be allowable, so too should the dependent claims.

Conclusion:

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Therefore, all pending claims are submitted to be in condition for allowance.
Applicants respectfully request a timely notice of allowance be issued in this case. The
Examiner is encouraged to telephone the undersigned if there are informalities that
can be resolved in a phone conversation, or if the Examiner has any ideas or
5 suggestions for further advancing the prosecution of this case.

Sincerely yours,

10 Winston Hsu

Date: 01.18.2008

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in
D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)